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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,549	03/12/2007	Mikael Schuisky	47113-5070	2259
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EXAMINER				
BLACKWELL, GWENDOLYN				
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/577,549

Applicant(s)

SCHUISKY, MIKAEL

Examiner

GWENDOLYN BLACKWELL

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
- Paper No(s)/Mail Date 8/25/06/5/18/07
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 5, 7, and 11-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claims 5, 7, and 11 recites the limitation "the metallic strip material". There is insufficient antecedent basis for this limitation in the claim. Based upon the claim language and a reading of the specification, the limitation "the metallic strip material" is being considered to be the steel strip material.
4. With regards to claim 12, a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance,

claim 12 recites the broad recitation the metal layer selected from the group consisting of aluminum, molybdenum, nickel, cobalt, copper, silver, gold, and platinum, and the claim also recites most preferably aluminum, molybdenum, silver, and copper which is the narrower statement of the range/limitation.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-2, 4-12, 14, 20, and 24-27 are rejected under 35 U.S.C. 102(e) as being anticipated by United States Patent Application Publication no. 2004/0060967, Yang et al.

Regarding claims 1, 9, and 11

Yang et al disclose a metal part, such as ferritic stainless steel, having a ceramic coating formed thereon, (pages 1-2, section 0012). The ceramic coating of a coating of yttrium stabilized zirconia former directly on the substrate, (page 3, section 0025), or bonded to the substrate through the use of a bond coat, (page 1, section 0011).

Regarding claim 2

When the structure recited in the reference is substantially identical to that of the claims, the claimed properties or function are presumed inherent. *MPEP 2112.01*. Because the prior art

exemplifies Applicant's claimed structure, the claimed physical properties relating to thermal expansion are inherently present in the prior art. Absent an objective showing to the contrary, the addition of the claimed physical properties to the claim language fails to provide patentable distinction over the prior art.

Regarding claims 14 and 25-27

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted). *MPEP* 2113.

Regarding claims 4-7 and 18-19

The FeCrAlloy has a chromium content of 22% and a thin sheet thickness of 2 mils (50.8 μm), page 5, section 0054).

Regarding claim 8

An additional layer of yttria stabilized zirconia can be added to the coating system, (page 3, section 0025).

Regarding claim 10

The zirconia coating has a thickness of 0.5 mil (12.7 μm), (page 4, section 0045).

Regarding claim 12

A second metal layer can be placed over the YSZ layer having the same materials used in the bond coat such as MAI (M= Fe, Ni, Co) or MCrAlY (M= Fe, Ni, Co), (page 3, section 0027).

Regarding claims 15-16

As the metal thickness falls within Applicant's claimed range as well as the coating thickness, it would be expected that the coated metal is flexible. The coated metal can be used in solid oxide fuel cells, (page 1, section 0003).

Regarding claim 17

As the sheet metal has a thickness of 50.8 μm and the coating has a thickness of 12.7 μm , the total thickness is 63.5 μm .

Regarding claim 24

The bond coat material can be MAI (M= Fe, Ni, Co) or MCrAlY (M= Fe, Ni, Co), (page 1, section 0011).

7. Claims 1-3, 7, 9, 14, 20-23, and 25-27 are rejected under 35 U.S.C. 102(e) as being anticipated by United States Patent Application Publication no. 2004/0229031, Gell et al.

Regarding claims 1, 7, 9 and 20-22

Gell et al disclose a YSZ coating formed on a steel substrate, (page 6, section 0076; example 1, page 7, sections 0077-0079). Yttria is contained in the oxide in the amount of 7 wt%.

Regarding claim 2

When the structure recited in the reference is substantially identical to that of the claims, the claimed properties or function are presumed inherent. *MPEP 2112.01*. Because the prior art

exemplifies Applicant's claimed structure, the claimed physical properties relating to thermal expansion are inherently present in the prior art. Absent an objective showing to the contrary, the addition of the claimed physical properties to the claim language fails to provide patentable distinction over the prior art.

Regarding claim 3

The surface of the substrate may have a surface roughness greater than or equal to about 0.1 μm , (page 3, section 0041).

Regarding claims 14 and 25-27

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted). *MPEP 2113*.

Regarding claim 23

The coating can have a thickness in the range of 1.0 μm to over 5 mm, (page 1, section 0014).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent Application Publication no. 2004/0060967, Yang et al as applied to claims 1 and 12 above.

Regarding claim 13

The limitations of claims 1 and are set forth above. Yang et al does not specifically disclose the thickness of the metal overlayer.

However, the coating must have some thickness as it is present and Yang et al disclose that the coating is formed in the same manner as the bond coat which would not be a thick layer. Absent a showing of criticality with respect to thickness (a result effective variable), it would have been obvious to a person of ordinary skill in the art at the time of the invention to adjust the thickness through routine experimentation in order to achieve a metal overlayer having the optimal thickness to in order to bond the second metal part to the first without degrading the performance of the electrochemical device such as a solid oxide fuel cell, (page 3, sections 0026-0027). It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GWENDOLYN BLACKWELL whose telephone number is 571-272-5772. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/GWENDOLYN BLACKWELL/
Primary Examiner, Art Unit 1794